

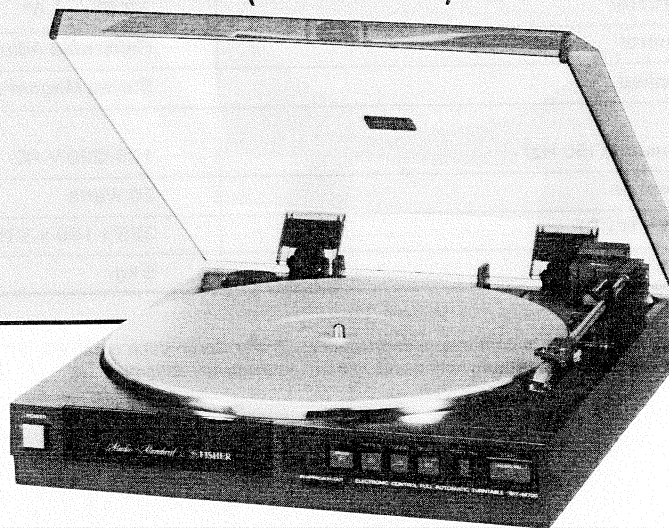
SERVICE MANUAL



FISHER

MT-M700

**DC-Servo Belt Drive
Electronic Control
Full-Automatic Turntable
(EUROPE)**



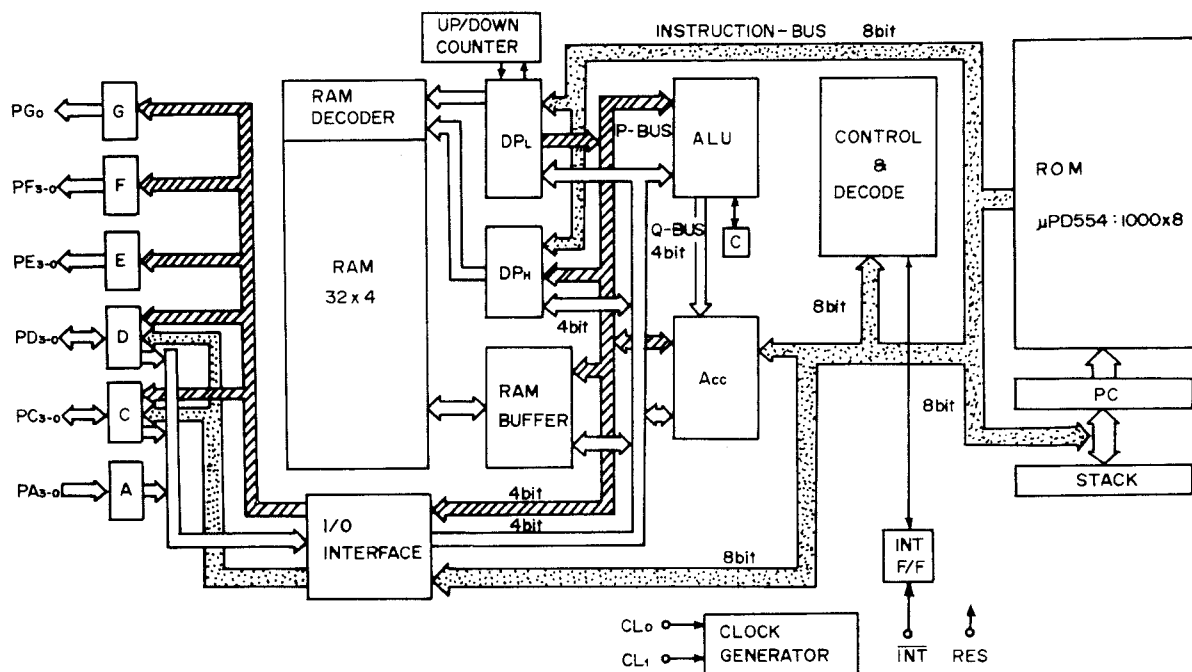
SPECIFICATIONS

TURNTABLE		MT-M700
Motor		DC Servo
Drive System		Belt
Wow and Flutter (WRMS)		0.05 %
Rumble (DIN 45539B)		-65 dB
Platter Diameter		296mm
Platter Weight		0.8 kg
Record Speed Selector		33-1/3 / 45 rpm
Automatic Functions	Start	Yes
	Stop	Yes
	Reject	Yes
	Cueing	Yes
	Repeat	Yes
Automatic Tonearm Return at End of Record		Yes
Manual Functions	Start	Yes
	Stop	Yes
Tonearm Data	Resonance	<10 Hz
	Balance Adjustment	Counterweight
	Effective Length	210 mm
	Shape	Straight
Bearing Type	Horizontal	Thrust
	Friction Sensitivity	0.15 g
	Vertical	Pivot
	Friction Sensitivity	0.2 g
Max. Tracking Error		+2.5° , -1.5°
Anti-Skate Control		Calibrated Adjustable
Cartridge Supplied		Stereo Magnetic (MG-101S)
GENERAL		
Power Requirements (50 Hz)		110/220 V AC
Power Consumption		20 Watts
Dimensions (W x H x D)		335 x 100 x 335 mm
Weight (approx.)		5 kg

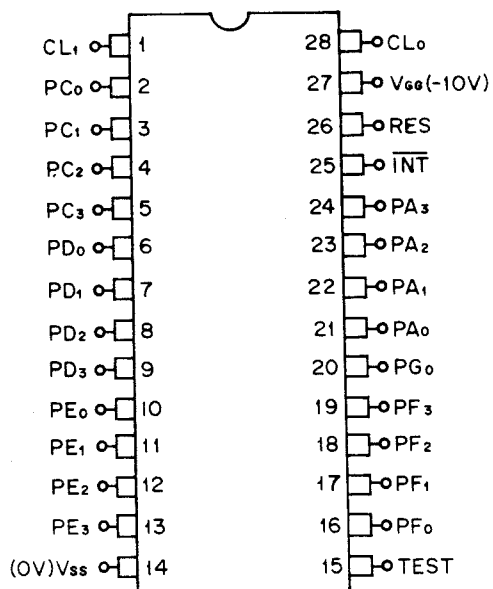
Because its products are subject to continuous improvement, Fisher Corporation reserves the right to modify product designs and specifications without notice and without incurring any obligation.

MICROCOMPUTER IC μ PD554-017(μ COM45)

SIGNAL FLOW

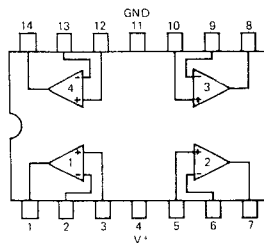


TOP VIEW

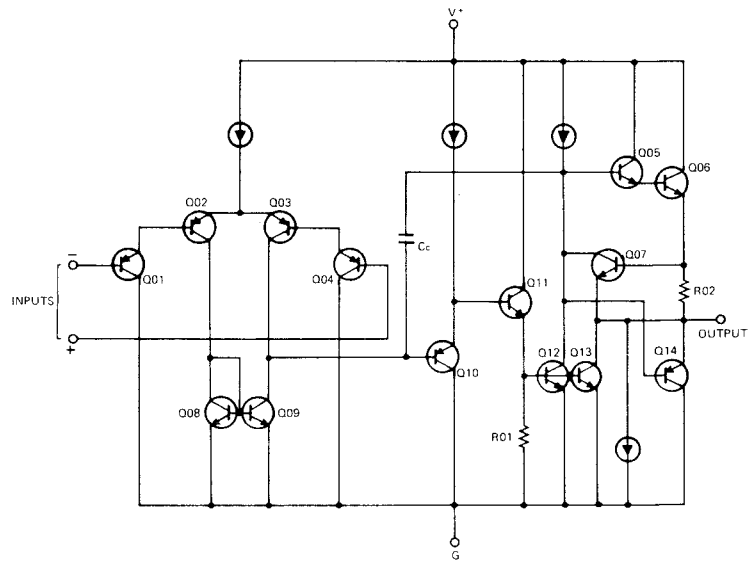


OPERATIONAL AMPLIFIER LA6324

TOP VIEW

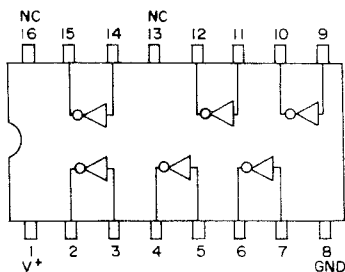


EQUIVALENT CIRCUIT

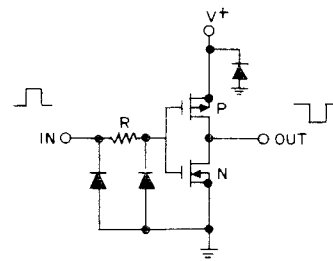


HEX INVERTER LC4049

TOP VIEW

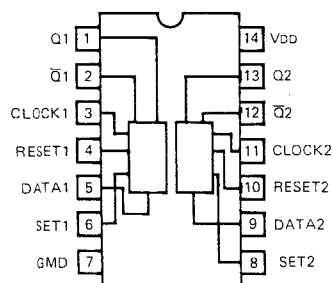


EQUIVALENT CIRCUIT

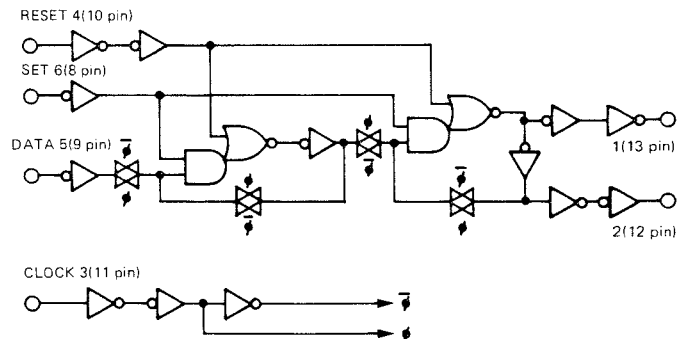


DUAL D-TYPE FLIP-FLOP LC4013

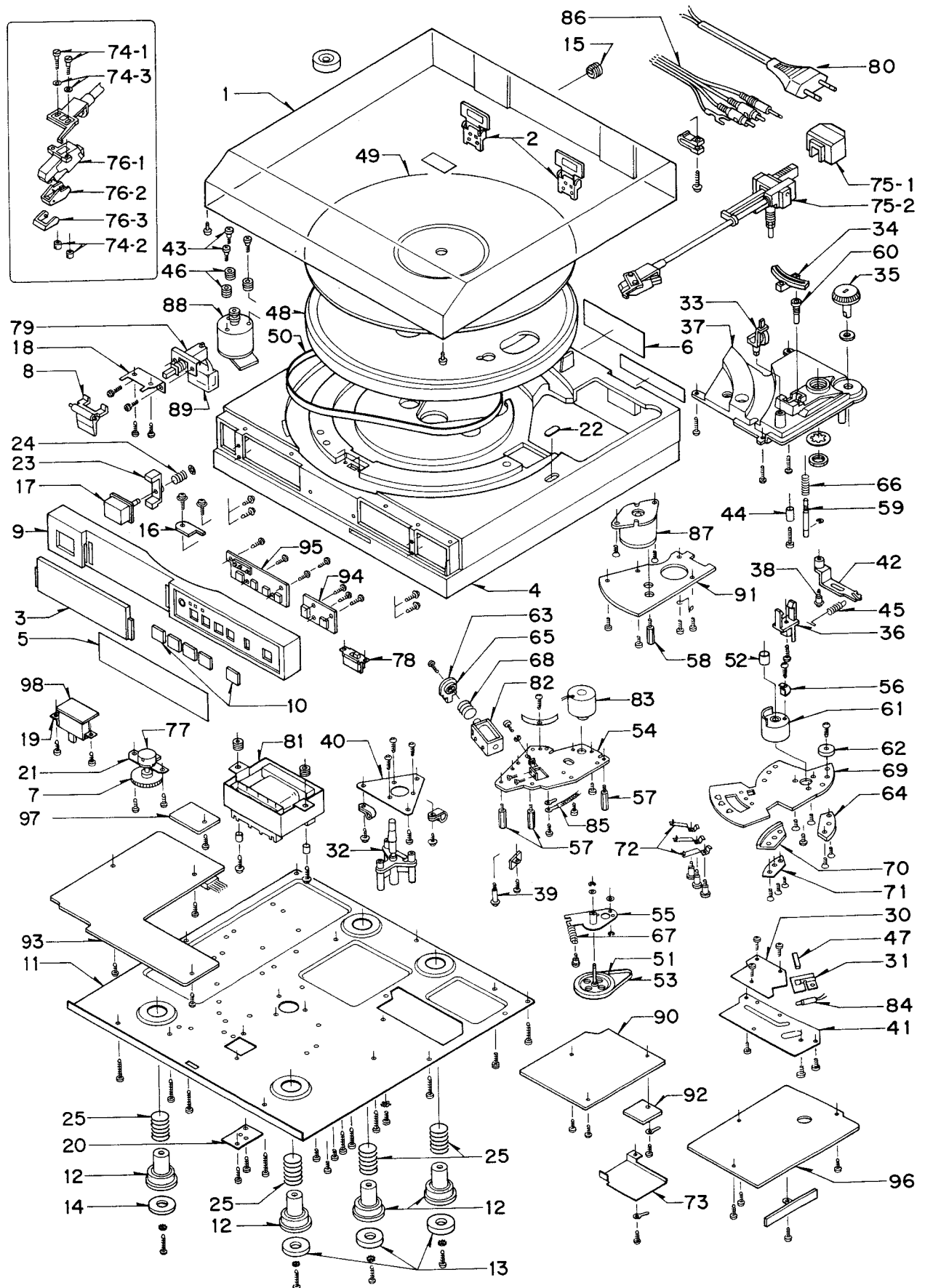
TOP VIEW



EQUIVALENT CIRCUIT



CABINET & TURNTABLE EXPLODED VIEW



PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
PACKING PARTS LIST							
	131 6 1169 05908	Box Corrugate-EXP	1	‡	131 2 4201 25203	+BRTS-B SEMS 3x16	1
	131 6 2119 01470	Bag Polyethylene-EXP	1	‡	131 2 4201 19701	Screw Pan Head 2.6x5 (19-2)	2
	131 6 2119 02081	Bag Polyethylene-EXP	2	‡	131 2 4201 19900	Screw(SEMS 3x6) (18-2, 11-2)	4
	131 6 2519 00203	Bag Polyethylene Ind.	1	‡	131 2 4201 20300	Screw TP (16-2)	2
	131 6 3009 32860	Pad (Parts Box)	1	‡	134 2 4203 02700	Washer (12-4)	4
	131 6 3009 33000	Pad (Parts Box Cover)	1	TURNTABLE PARTS LIST			
	131 6 3009 33690	Pad	1		131 2 3110 01200	Plate Pad Wire	1
	131 6 3009 34120	Pad (Right)	1	30	131 2 6113 46200	Shelter	1
	131 6 3009 34130	Pad (Left)	1	31	134 0 5015 10400	Shaft Turntable Assy	1
	131 6 3009 34140	Pad	1	32	134 0 6031 12201	Arm Rest Assy	1
	131 6 4159 10102	Notes	3	33	134 0 6042 11100	Plate Lifting Assy	1
	131 6 4559 10900	Manufacturing No.	2	34	134 2 1601 19003	Knob	1
	134 2 2104 12300	Screw Transit (+, -)	3	35	134 2 2106 12400	Holder	1
	134 2 4208 15100	Spacer	3	36	134 2 3201 13303	Base Pick-up	1
	131 6 2519 01300	Bag Polyethylene-Ind.	1	37	134 2 4106 21801	Shaft	1
	131 6 2519 01300	Bag Polyethylene-Ind.	1	38	134 2 4106 27600	Shaft	1
ACCESSORIES PARTS LIST				39	134 2 4108 31800	Plate Turntable Shaft	1
	131 6 2719 10801	Bag Fan	1	40	134 2 4108 31900	Plate Base	1
	131 6 4519 15700	Guarantee Certificate	1	41	134 2 4123 21500	Arm	1
	131 6 4559 10900	Manufacturing No.	1	42	134 2 4201 13600	Screw	3
	134 2 2901 11601	Adaptor EP	1	43	134 2 4208 16600	Spacer	1
	142 6 4119 31760	Explanatory Booklet	1	44	134 2 5101 29400	Spring	1
				45	134 2 5202 11800	Rubber Cushion	5
CABINET PARTS LIST				46	134 2 5205 15300	Cushion	4
1	131 2 1107 26700	Lid	1	47	134 2 6101 13800	Turntable	1
	131 2 1310 22106	Name Plate	1	48	134 2 6102 15802	Mat Turntable	1
	131 2 2904 13401	Pad Lid	2	49	134 2 6302 11600	Belt	1
2	131 0 2002 16801	Hinge Assy	2	‡	134 2 5205 15200	Cushion	1
3	131 2 1110 35200	Plate Decorate	1	‡	131 2 4201 20800	Screw 2.6x6 (36-1)	1
4	131 2 1101 48004	Cabinet	1	‡	131 2 4201 20804	Screw (33-1)	1
5	131 2 1203 60700	Panel Control	1	‡	131 2 4201 20706	Screw (44-1)	1
6	131 2 1310 34619	Name Plate	1	‡	103 3 1903 00611	Screw Brazier Hd. Tapping-2 +M3.0x6 (32-3)	3
7	131 2 1601 56800	Knob	1	‡	131 2 4201 19501	Screw Button Head B-TITE 3 (40-1, 37-3)	4
8	131 2 2108 02500	Hinge	1	‡	131 2 4201 13505	Screw (30-3)	3
9	131 2 3305 35300	Panel Front	1	‡	131 2 4201 19900	Screw(SEMS 3x6 Z1) (31-1, 38-2)	3
10	131 2 4208 42200	Spacer	5	‡	131 2 4201 25205	Screw (40-2)	2
11	131 2 1105 29501	Plate Bottom	1	‡	131 2 4203 16402	Washer (35-1)	1
12	131 0 1003 14500	Leg Assy	4	51	131 0 3020 11700	Pulley Assy	1
13	131 2 5203 23602	Felt (Leg)	3	52	131 2 4208 26801	Spacer	1
14	131 2 5203 23603	Felt	1	53	131 2 4804 00300	Rubber Belt	1
15	131 2 6111 21300	Bushing (Line Cord)	1	54	134 0 6037 12300	Base Assy	1
16	131 2 7104 00101	Plate Pad Switch	1	55	134 0 6038 00400	Arm Clutch Assy	1
17	134 2 1601 19500	Knob	1	56	134 2 2403 24300	Angle Mount	1
18	134 2 2604 10900	Angle Switch	1	57	134 2 4106 27801	Shaft	3
19	134 2 2604 11300	Angle Switch	1	58	134 2 4106 27900	Shaft	1
20	134 2 4108 27700	Plate	1	59	134 2 4116 13800	Spindle Lifting	1
21	134 2 4108 31300	Plate VR	1	60	134 2 4118 19101	Boss	1
22	134 2 4108 31701	Plate	1	61	134 2 4118 19301	Boss	1
23	134 2 4121 12800	Guide	1	62	134 2 4119 11800	Weight	1
24	134 2 5101 35000	Spring	1	63	134 2 4121 12400	Guide	1
25	134 2 5102 15001	Spring Mounting	4	64	134 2 4203 02900	Washer Weight	1
‡	131 2 4208 28304	Spacer	2	65	134 2 4208 15400	Spacer	1
‡	131 2 4220 10502	Ring Snap (17-1)	1	66	134 2 5101 34400	Spring	1
‡	131 2 4201 21100	Screw (9-4)	4	67	134 2 5102 14101	Spring Arm	1
‡	131 2 4201 20800	Screw 2.6x6 (9-7, 19-2)	9	68	134 2 5102 14200	Spring Solenoid	1
‡	131 2 4201 19501	Screw Button Head B-TITE 3 (18-2, 21-2, 4-4, 9-3, 4-3, 4-1)	15	69	134 2 4108 30800	Plate Control	1
‡	131 2 4201 27103	Screw Button B-TITE 3 (11-3, 11-2, 11-10, 12-4)	19	70	134 2 4131 00500	Rubber Friction	1
‡	131 2 4201 25205	Screw (B-TITE SEMS) (4-2)	2	71	134 2 4203 03400	Washer Weight	1
				72	134 2 5103 11100	Spring Shelter	3
				‡	101 3 1203 00511	Screw Flat Hd. +M3.0x5 (71-3)	3
				‡	141 2 4219 14000	Screw (72-3)	3
				‡	131 2 4206 12000	Ring E2 (59-2, 51-1)	2

PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
‡	112 3 1303 00011	E Ring M3.0 (55-1)	1	ELECTRICAL PARTS LIST			
‡	101 3 1303 00611	Screw Pan Hd. +3.0x5 (4-3)	3	77	4 2222 02760	VR 100kΩ-Bx1	1
‡	131 2 4201 13505	Screw (69-1)	1	78	4 2312 02650	Switch Slide 3P (Volt Select)	1
‡	101 3 1303 00411	Screw Pan Hd. +3.0x4 (87-1)	1	79	4 2312 06050	Switch Push Power	1
‡	101 3 1203 00611	Screw Flat Hd. +M3.0x6 (82-2)	2	80	4 2432 00071	Line Cord	1
‡	131 2 4201 19900	Screw(SEMS 3x6 Z1) (63-1)	1	81	4 2512 18923	Power Trans	1
‡	131 2 4201 20800	Screw 2.6x6,Z1 (56-1)	1	82	4 2642 00040	Plunger	1
‡	131 2 4201 23702	Screw (69-2)	2	83	4 5272 00011	Comutate Mot.Magnet	1
‡	131 2 4201 19502	Screw Button Hd. B-TITE 3 (69-1)	1	84	4 6122 02130	Pilot Lamp	1
‡	131 2 4201 15203	Screw M4x10 Z, (61-2)	2	85	131 0 4004 16000	Wire Shield Assy	1
‡	141 2 4219 09000	Screw (83-2)	2	86	131 0 4004 16500	Wire Shield Assy	1
‡	131 2 4201 13700	Screw(TAPTITE)3x6 Z1 (62-2, 64-2)	4	87	134 0 5011 01004	Motor Assy (Up/Down)	1
‡	131 2 4201 19501	Screw(Button Hd. B-TITE 3) (62-1)	1	88	134 0 5011 02801	Motor Assy	1
‡	110 3 2104 00011	Spring Washer-2 M4.0 (54-1)	1	89	4 2239 70900	Mylar 0.01μF 250V ±20%	1
‡	131 2 4203 83222	Washer Plain 3.2x8x0.3,Z1 (55-1)	1	90	131 0 4001 12062	Power Supply P.C.B.Assy	1
‡	131 2 4203 84233	Washer Plain 4.2x10x0.3,Z1 (54-1)	1	91	131 0 4001 08771	Mecha P.C.B.Assy	1
‡	131 2 4203 83200	Washer (3.2x8x0.5) (57-3)	3	92	131 0 4001 10860	Phono P.C.B.Assy	1
73	131 2 6103 21300	Cover Shield	1	93	131 0 4001 12050	Control P.C.B.Assy	1
74	134 0 4009 03302	Pick-up Assy	1	94	131 0 4001 13280	L.E.D. Indicator P.C.B.Assy	1
75	134 0 4001 10702	Tone Arm Assy	1	95	131 0 4001 13290	Touch Switch P.C.B.Assy	1
75-1	134 0 4003 03501	Pick-up Weight Assy	1	96	131 0 4001 12080	Auto Function P.C.B.Assy	1
75-2	134 0 4004 05202	Pick-up Arm Assy	1	97	131 0 4001 12070	Stop P.C.B.Assy	1
76	134 0 4008 00200	Cartridge Assy	1	98	131 0 4001 12310	Sensor Switch P.C.B.Assy	1
76-1	4 1579 27040	Cartridge	1	NOTES: 1. Parts order must contain Model Number, Part Number and Description. 2. Ordering quantity of screws and resistors must be multiple of 10 pcs.			
76-2	4 1579 29460	Stylus	1				
76-3	134 2 1402 12800	Retainer Needle	1				
74-1	134 2 4201 11310	Screw (-) 2.6x9	2				
74-2	134 2 4202 11301	Nut	2				
74-3	134 2 4203 01800	Washer	2				
‡	134 2 5205 12000	Cushion	2				
‡	103 3 1903 00611	Screw Brazier Hd. Tapping-2 +M3.0x6	1				
‡	131 2 4201 19501	Screw Button Hd. B-TITE 3 (73-1)	1				
‡	131 2 4203 20200	Washer (74-1)	1				

Note: ‡ indicates not a service part. The numbers for screws, nuts, and washers shown in Description, correspond with Ref. Nos. of the parts using these screws, nuts and washers.

Example: 3-2

3 means	Ref. No.
2 means	Q'ty.

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

ADJUSTMENT

As all adjustments must be performed with the bottom plate mounted on the cabinet, the ADJUSTING JIG in Fig. 1 is required to obtain correct adjustments.

Insert the jig from (A) in Fig. 2 into the 7P plug on the Control P.C.Board and pull out the test points. Then, perform the adjustments.

Note: Perform the adjustments in the described order.

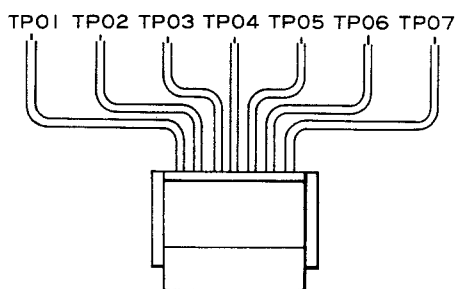


Fig. 1

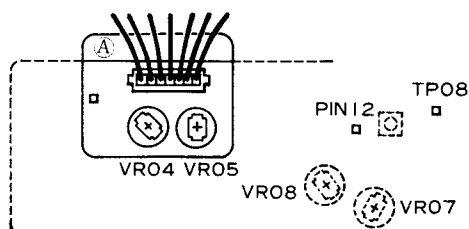


Fig. 2

CLOCK OSCILLATION FREQUENCY ADJUSTMENT

1. Remove the bottom plate and connect the frequency counter to Pin 12 (GND) and TP08 (+).
2. Adjust L01 for $400 \text{ kHz} \pm 1 \text{ kHz}$.

STYLUS HEIGHT ADJUSTMENT

1. Mount the bottom plate on the cabinet.
2. Disengage the turntable belt from the motor to prevent the turntable from rotating.
3. Set the tone arm in "Cueing Up" mode and turn the stylus height adjusting screw in Fig. 3 until the stylus height becomes 7.8 mm away from the surface of the turntable.

Note: If the bottom plate has been already removed, the readjustment is required with the bottom plate mounted on the cabinet.

PC1 GAIN ADJUSTMENT

1. Insert the adjusting jig into the 7P plug.
2. Connect the DC voltmeter to TP01 (—) and TP02 (+).
3. Place the STANDARD REFLECTOR on the turntable and move the cartridge in "Cueing Up" mode over the REFLECTOR. Then, adjust VR06 until the voltmeter reads $3.2 \text{ V} \pm 0.2 \text{ V}$.
4. If the correct adjustment cannot be obtained in the above procedure, cut off R39 (330 K) and perform the above adjustment again.

Note: If the bottom plate has been already removed, the readjustment is required with the plate mounted on the cabinet.

ADJUSTMENT (Continued)

RETURN ADJUSTMENT

1. Set VR02 to "Mechanical Center" position and adjust the return point by turning it either clockwise (inward) or counterclockwise (outward), so that the return action takes place at the end of music.
2. Adjust VR02, so that the returning arm lowers exactly at the armrest.

PHOTOTRANSISTOR SENSITIVITY ADJUSTMENT

1. Short-circuit TP04 and TP05 with the resistor (150 ohms).
2. Connect the DC voltmeter to TP06 (+) and TP91 (—).
3. The voltage changes when the tone arm in "Cueing Up" mode is moved towards the center over the turntable. Adjust VR03 until the voltage becomes $50 \text{ mV} \pm 5 \text{ mV}$ at the low point.

READ-IN ADJUSTMENT

1. When the pickup is set at the 30 cm read-in position with the turntable removed, the mechanical trimmer can be observed through the hole (A) in Fig. 4.
The pickup lowering position moves inward when the trimmer is moved to the right and it moves outward when the trimmer is moved to the left.
2. Adjust the mechanical trimmers for the 25 cm and 17 cm read-in positions by following the same procedure as described above.

MUSIC SELECTION ADJUSTMENT

1. Set the Approach VR to "Center Click" position.
2. Select a music program near the outer circumference of a record and a program near the inner circumference and check for the malselection.
If the beginning or the last portion of music is not played, adjust VR04 and VR05.
Note: VR04 and VR05 are connected in series.

3. Check the read-in position changes by turning the APPROACH knob.

SPEED ADJUSTMENT

1. Set the SPEED SELECT button to "33" position and adjust VR07 until the speed becomes $33 \frac{1}{3}$ rpm. Use a strobosheet on the market for the measurement.
2. Set the SPEED SELECT button to "45" position and adjust VR08 for the correct speed.
Note: Be sure to perform this adjustment after the "33" speed adjustment.

ADJUSTMENT (Continued)

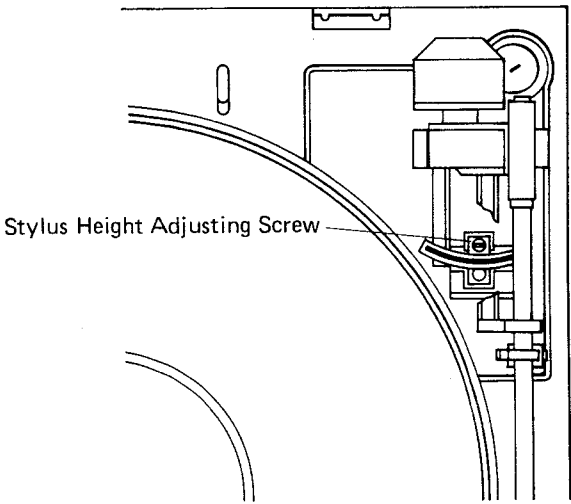


Fig. 3

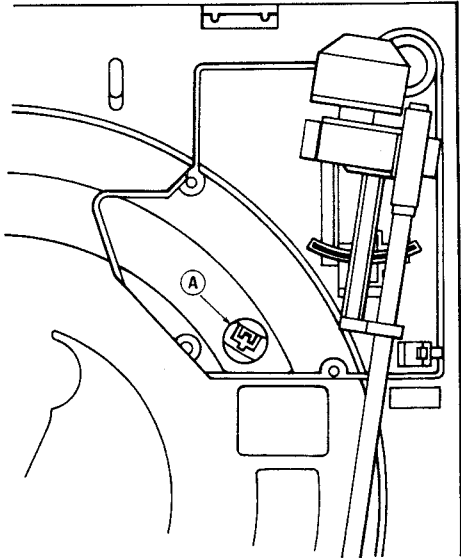


Fig. 4

LOCATION OF VRs

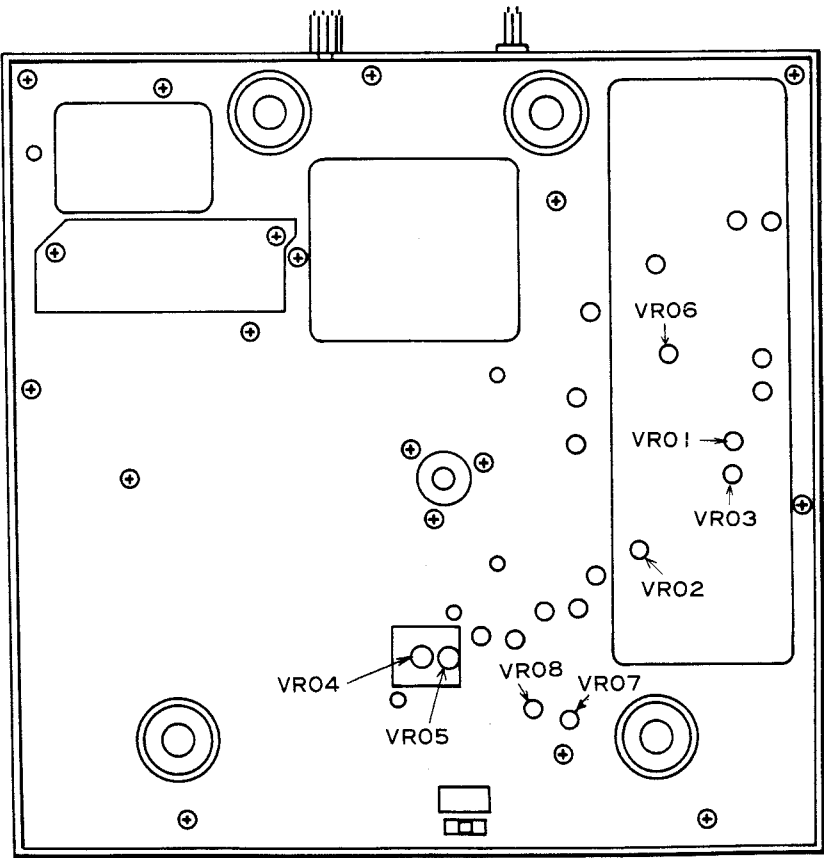


Fig. 5

CARTRIDGE REPLACEMENT

The cartridge has a sensor which detects "Silent Space" between music programs.
As the sensor leads are not plug-in type, replace the cartridge by following the steps as described below.

1. Remove the bottom plate of the unit and unsolder the three leads (A) . (See Fig. 6)
2. Remove the screw holding the cartridge and disconnect the plug-in type leads (Signal Leads). Then, pull out the cartridge to the extent that the leads removed in Step 1 do not enter into the tone arm.
3. Remove the upper lid of the cartridge and the printed circuit board. Then, unsolder the leads. (See Fig. 7)
4. Solder the leads removed in Step 3 and mount the cartridge on the arm.
5. Connect the three leads (A) in Fig. 6 to the printed circuit board.
6. Perform the overhung adjustment of the cartridge. (See Fig. 8)

Note: Readjustment of the unit is required after the cartridge replacement.

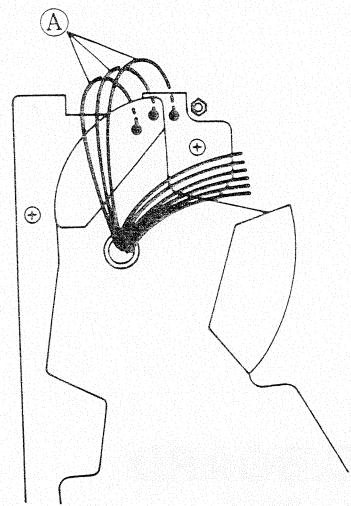


Fig. 6

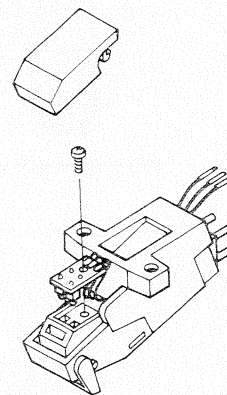


Fig. 7

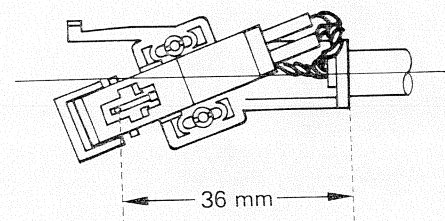
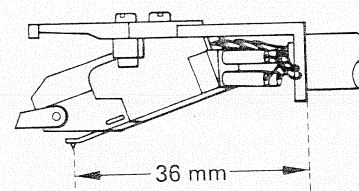
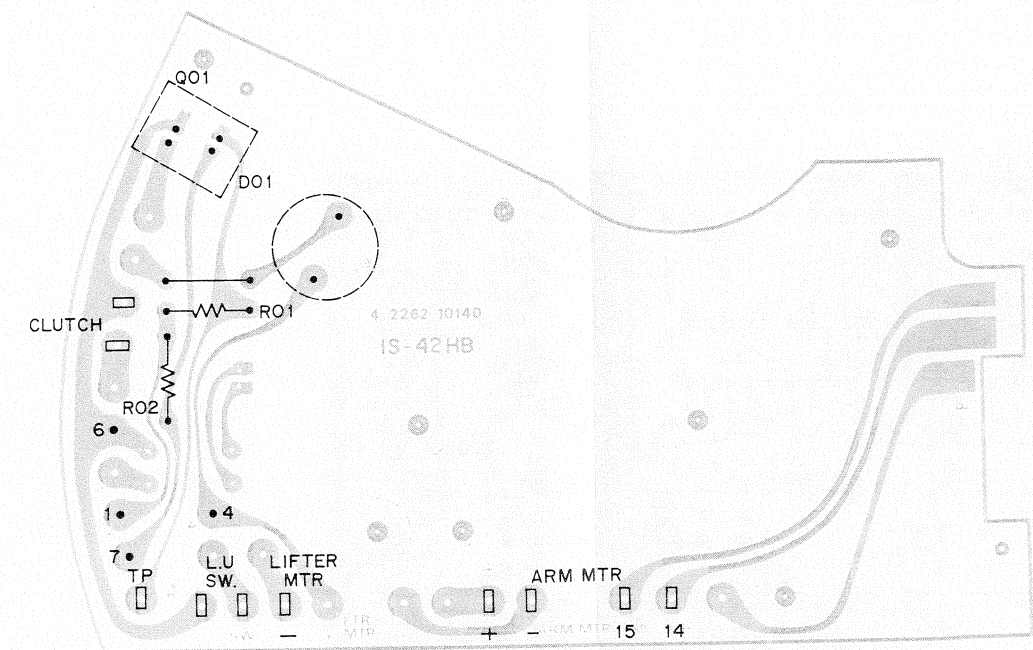


Fig. 8



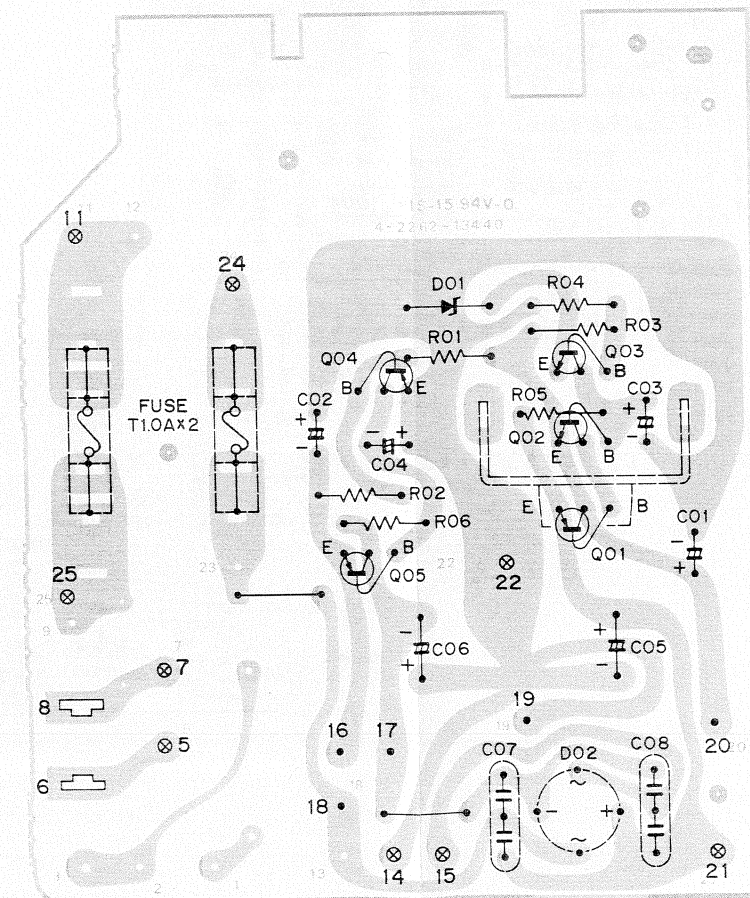
MECHA P.C.BOARD

(BOTTOM VIEW)



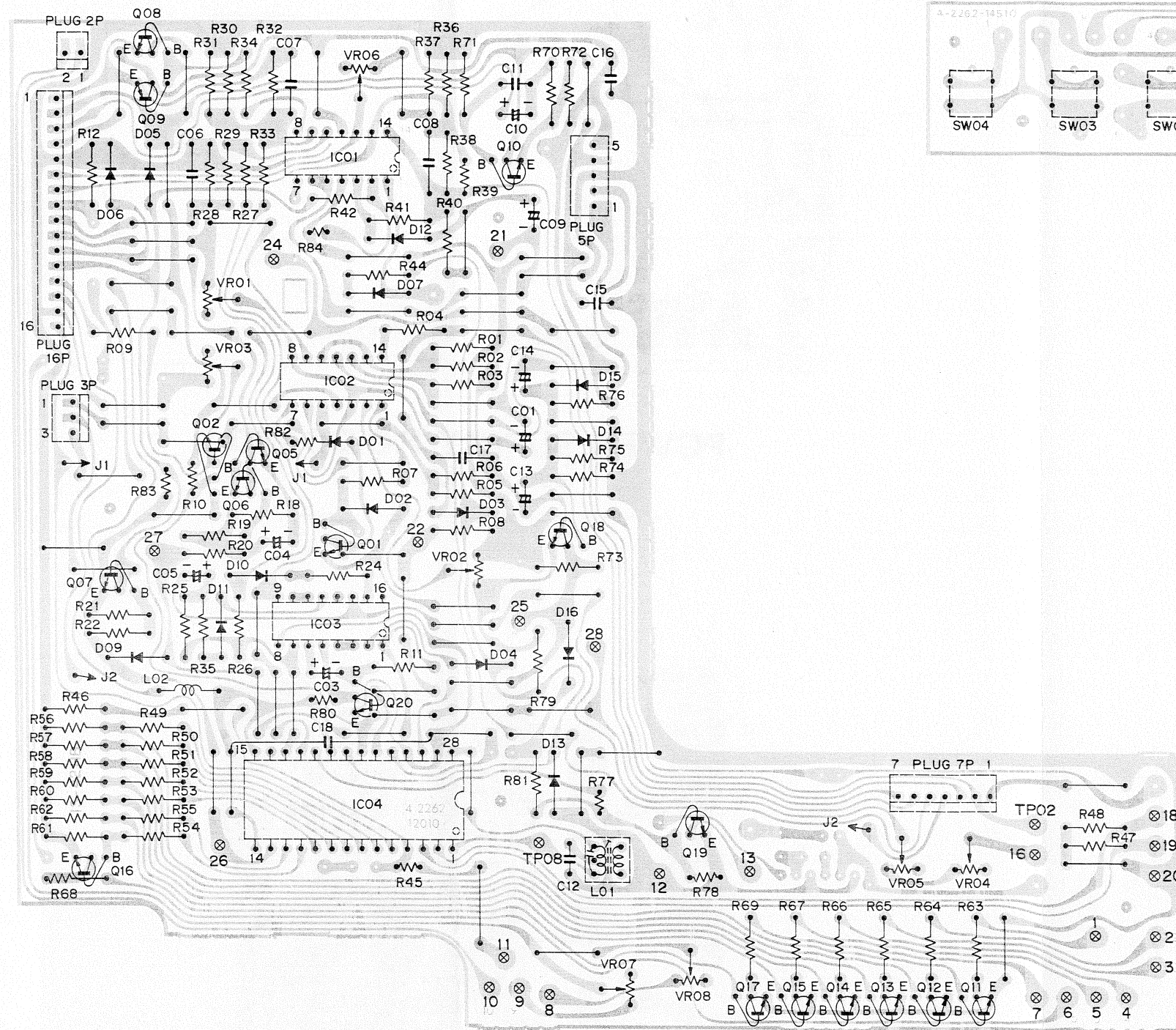
POWER SUPPLY P.C.BOARD

(BOTTOM VIEW)



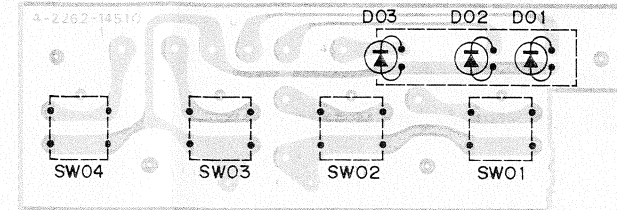
CONTROL P.C.BOARD

(BOTTOM VIEW)



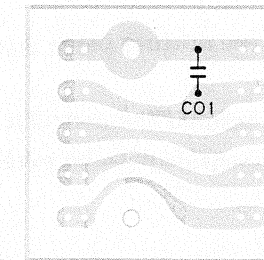
TOUCH SWITCH P.C.BOARD

(BOTTOM VIEW)



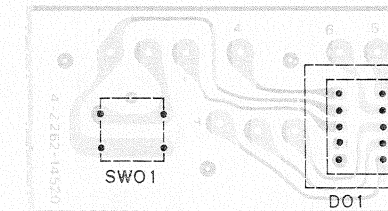
PHONO P.C.BOARD

(BOTTOM VIEW)



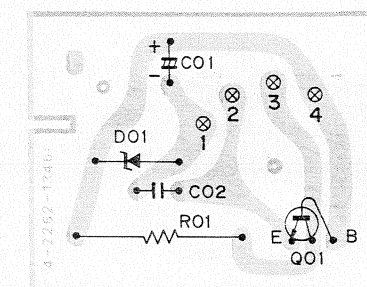
L.E.D. INDICATOR P.C.BOARD

(BOTTOM VIEW)

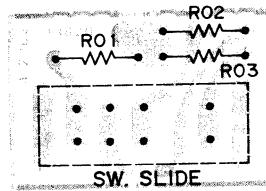


STOP P.C.BOARD

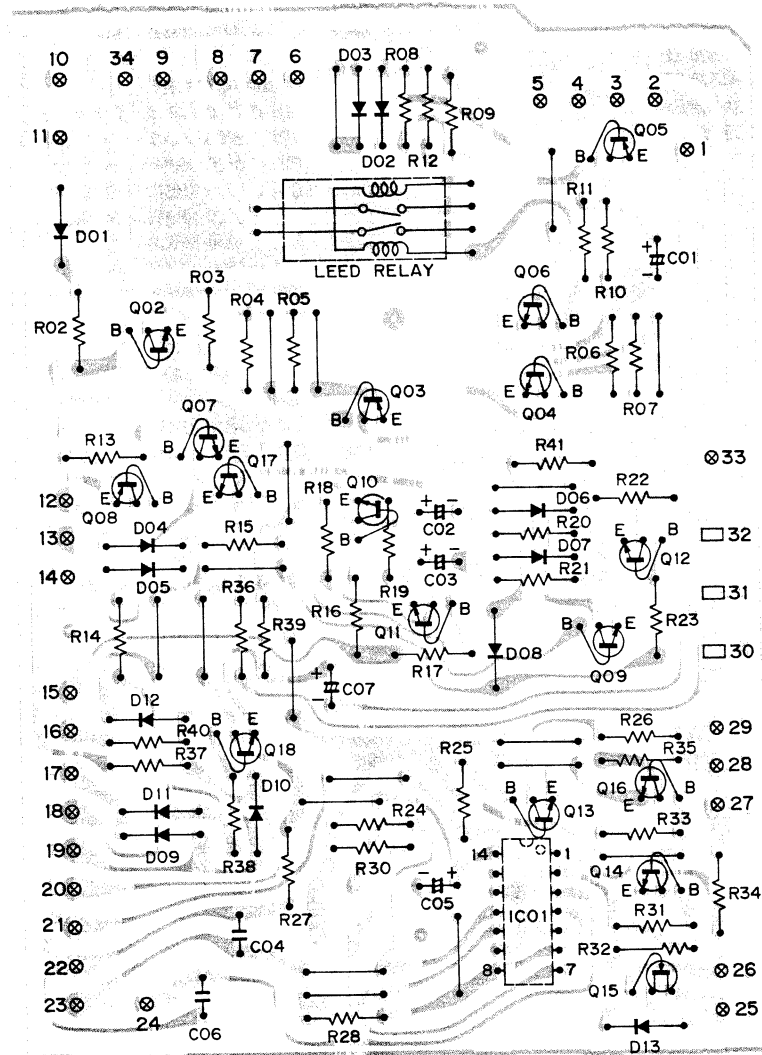
(BOTTOM VIEW)



SENSOR SWITCH P.C.BOARD (BOTTOM VIEW)



AUTO FUNCTION P.C.BOARD (BOTTOM VIEW)



PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
POWER SUPPLY P.C.B.Assy				PHONO P.C.B.Assy			
131 0	4001 12062	Power Supply P.C.B.Assy	1	131 0	4001 10860	Phono P.C.B.Assy	1
4	2349 20380	Fuse 1.0 A	2	CAPACITOR			
4	2352 00200	Fuse Holder	4	C01	CC1 0 3500 ZG00C	Ceramic 0.01μF 50V +80,-20%	1
4	2372 00830	EC Terminal 1P	2	CONTROL P.C.B.Assy			
131 0	4006 32400	Cord Assy	1	131 0	4001 12050	Control P.C.B.Assy	1
131 2	6108 11201	Cover Sever	2	4	2362 00080	Plug 3P	1
131 2	6201 21500	Plate Heat Sink	1	4	2362 00130	Plug 7P	1
131 2	7103 40400	Label 1.0 A	2	4	2362 00770	Plug 2P	1
CAPACITORS				4	2362 00800	Plug 16P	1
C01	CD2 2 7160 0001V	Electrolytic 220μF 16V	1	4	2369 22740	Plug 5P	1
C02	CD4 7 6160 0001V	Electrolytic 47μF 16V	1	4	2562 00040	IF Trans AM	1
C03	CD4 7 4500 0001V	Electrolytic 0.47μF 50V	1	4	2532 00530	Choke Coil 39μH	1
C04	CD4 7 4500 0001V	Electrolytic 0.47μF 50V	1	4	2222 02660	Semi Fixed 22kΩ-B	1
C05	4 2232 00690	Electrolytic 2200μF 25V	1	4	2222 02680	Semi Fixed 100kΩ-B	1
C06	4 2232 00690	Electrolytic 2200μF 25V	1	4	2222 02650	Semi Fixed 4.7kΩ-B	1
C07	4 2232 00430	Ceramic 0.01μFx2 250V	1	4	2222 02680	Semi Fixed 100kΩ-B	1
C08	4 2232 00430	Ceramic 0.01μFx2 250V	1	4	2222 02680	Semi Fixed 100kΩ-B	1
SEMICONDUCTORS				4	2222 02690	Semi Fixed 220kΩ-B	1
D01	DNN - RD9R 1EB1-	Diode, RD 9.1 EB 1	1	4	2222 02670	Semi Fixed 47kΩ-B	1
D02	DGG - W02-	Bridge Diode, W 02	1	4	2222 02660	Semi Fixed 22kΩ-B	1
Q01	203 5 8530 51450	Transistor, 2SB 514 E,F	1	CAPACITORS			
Q02	203 5 5000 53650	Transistor, 2SC 536 E,F	1	C01	CD1 0 7100 0001V	Electrolytic 100μF 10V	1
Q03	203 5 5000 53650	Transistor, 2SC 536 E,F	1	C03	CD1 0 6160 0001V	Electrolytic 10μF 16V	1
Q04	203 5 7230 60850	Transistor, 2SA 608 E,F	1	C04	CD4 7 6100 0001V	Electrolytic 47μF 10V	1
Q05	203 5 7350 76450	Transistor, 2SB 764 E,F	1	C05	CD1 0 5500 KHS1V	Electrolytic 1μF 50V ±10%	1
RESISTORS				C06	CI1 0 3250 NF00R	Boundary 0.01μF 25V ±30%	1
R01	RD1 2 3251 JM000	Carbon 12kΩ 1/4W ±5%	1	C07	CC3 3 1250 KE00R	Ceramic 330pF 25V ±10%	1
R02	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1	C08	CC1 0 2500 KE00R	Ceramic 0.001μF 50V ±10%	1
R03	RD1 0 2251 JM000	Carbon 1kΩ 1/4W ±5%	1	C09	CD2 2 5500 0001V	Electrolytic 2.2μF 50V	1
R04	RD5 6 2251 JM000	Carbon 5.6kΩ 1/4W ±5%	1	C10	CD2 2 5500 0001V	Electrolytic 2.2μF 50V	1
R05	RD3 3 2251 JM000	Carbon 3.3kΩ 1/4W ±5%	1	C11	CM2 2 3500 K00SV	Mylar 0.022μF 50V ±10%	1
R06	RD1 0 2251 JS000	Carbon 1kΩ 1/4W ±5%	1	C12	CS4 7 1500 J000V	Polystyroul 470pF 50V ±5%	1
MECHA P.C.B.Assy				C13	CD2 2 6350 0001V	Electrolytic 22μF 35V	1
131 0	4001 08771	Mecha P.C.B.Assy	1	C14	CD1 0 6500 0001V	Electrolytic 10μF 50V	1
4	2082 00020	LW 12 C	1	C15	CC4 7 3500 ZG00C	Ceramic 0.047μF 50V +80,-20%	1
4	2372 00060	Receptacle	10	C16	CC4 7 3500 ZG00C	Ceramic 0.047μF 50V +80,-20%	1
131 0	4006 32322	Cord Assy	1	C17	CC1 0 2500 KE00R	Ceramic 0.001μF 50V ±10%	1
131 0	4006 32328	Cord Assy	1	C18	CM1 0 4500 K00SV	Mylar 0.1μF 50V ±10%	1
131 0	4006 32329	Cord Assy	1	SEMICONDUCTORS			
131 0	4006 32330	Cord Assy	1	D01	205 5 9040 44210	Diode, DS 442	1
131 0	4006 34802	Cord Assy	1	D02	205 5 9040 44210	Diode, DS 442	1
131 2	3608 14100	Cramp Wire	1	D03	205 5 9040 44210	Diode, DS 442	1
134 2	2106 11900	Holder	1	D04	205 5 9040 44210	Diode, DS 442	1
134 2	2106 12000	Holder	1	D05	202 5 2470 13540	Diode, DS 135 D	1
SEMICONDUCTORS				D06	202 5 2470 13540	Diode, DS 135 D	1
D01	D00 - SLP- 114A-	L.E.D., SLP 114 A	1	D07	205 5 9040 44210	Diode, DS 442	1
Q01	T00 - SPS- 102-	Transistor, SPS-102	1	D09	205 5 9040 44210	Diode, DS 442	1
RESISTORS				D10	205 5 9040 44210	Diode, DS 442	1
R01	RD2 2 1251 JM000	Carbon 220Ω 1/4W ±5%	1	D11	205 5 9040 44210	Diode, DS 442	1
R02	RD1 2 1251 JM000	Carbon 120Ω 1/4W ±5%	1	D12	205 5 9040 44210	Diode, DS 442	1
				D13	205 5 9040 44210	Diode, DS 442	1
				D14	205 5 9040 44210	Diode, DS 442	1
				D15	202 5 2470 13540	Diode, DS 135 D	1
				D16	205 5 9040 44210	Diode, DS 442	1
				IC01	206 5 1296 32410	IC, LA 6324	1
				IC02	206 5 1296 32410	IC, LA 6324	1
				IC03	206 5 8584 04910	IC, LC 4049	1
				IC04	4 9362 00010	IC, MCP (MPD554-017)	1

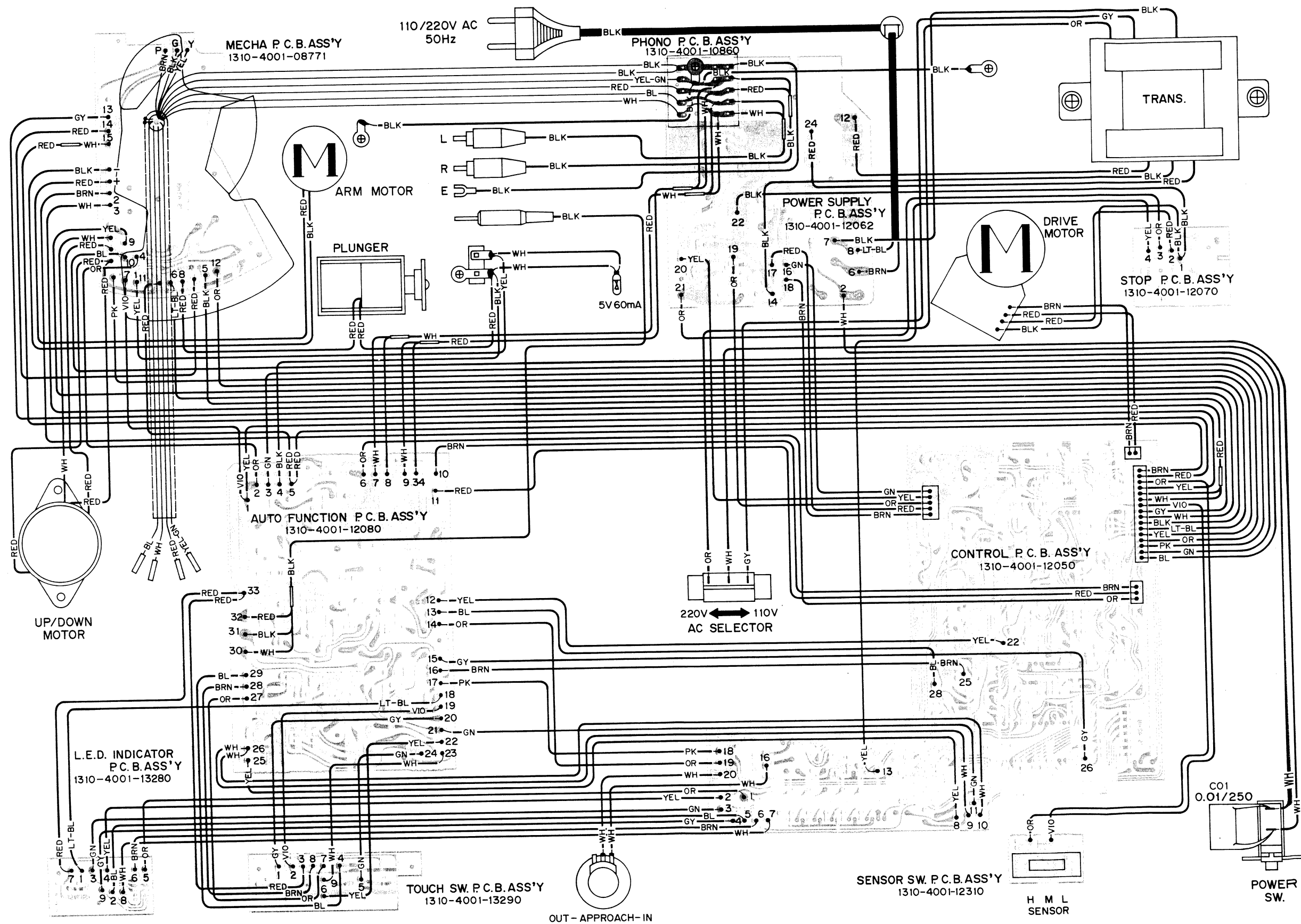
PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
Q01	203 5 5000 53650	Transistor, 2SC 536 E,F	1	R52	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1
Q02	203 5 5000 53650	Transistor, 2SC 536 E,F	1	R53	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1
Q05	203 5 7340 86350	Transistor, 2SD 863 E,F	1	R54	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1
Q06	203 5 5000 53650	Transistor, 2SC 536 E,F	1	R55	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1
Q07	203 5 7340 86360	Transistor, 2SD 863 F	1	R56	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1
Q08	203 5 7340 86350	Transistor, 2SD 863 E,F	1	R57	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1
Q09	203 5 7350 76450	Transistor, 2SB 764 E,F	1	R58	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1
Q10	203 5 5000 53670	Transistor, 2SC 536 G	1	R59	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1
Q11	203 5 5000 53650	Transistor, 2SC 536 E,F	1	R60	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1
Q12	203 5 5000 53650	Transistor, 2SC 536 E,F	1	R61	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1
Q13	203 5 5000 53650	Transistor, 2SC 536 E,F	1	R62	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1
Q14	203 5 5000 53650	Transistor, 2SC 536 E,F	1	R63	RD1 0 2251 JM000	Carbon 1kΩ 1/4W ±5%	1
Q15	203 5 5000 53650	Transistor, 2SC 536 E,F	1	R64	RD1 0 2251 JM000	Carbon 1kΩ 1/4W ±5%	1
Q16	203 5 5000 53650	Transistor, 2SC 536 E,F	1	R65	RD1 0 2251 JM000	Carbon 1kΩ 1/4W ±5%	1
Q17	203 5 5000 53650	Transistor, 2SC 536 E,F	1	R66	RD1 0 2251 JM000	Carbon 1kΩ 1/4W ±5%	1
Q18	203 5 5000 53650	Transistor, 2SC 536 E,F	1	R67	RD1 0 2251 JM000	Carbon 1kΩ 1/4W ±5%	1
Q19	203 5 7340 86350	Transistor, 2SD 863 E,F	1	R68	RD1 0 2251 JM000	Carbon 1kΩ 1/4W ±5%	1
Q20	203 5 5000 53650	Transistor, 2SC 536 E,F	1	R69	RD1 0 2251 JM000	Carbon 1kΩ 1/4W ±5%	1
RESISTORS				R70	RD1 2 2251 JM000	Carbon 1.2kΩ 1/4W ±5%	1
R01	RD2 2 3251 JM000	Carbon 22kΩ 1/4W ±5%	1	R71	RD1 5 4251 JM000	Carbon 150kΩ 1/4W ±5%	1
R02	RD1 5 2251 JM000	Carbon 1.5kΩ 1/4W ±5%	1	R72	RD6 8 2251 JM000	Carbon 6.8kΩ 1/4W ±5%	1
R03	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1	R73	RD4 7 2251 JM000	Carbon 4.7kΩ 1/4W ±5%	1
R04	RD4 7 2251 JM000	Carbon 4.7kΩ 1/4W ±5%	1	R74	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1
R05	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1	R75	RD5 6 3251 JM000	Carbon 56kΩ 1/4W ±5%	1
R06	RD1 0 2251 JM000	Carbon 1kΩ 1/4W ±5%	1	R76	RD4 7 2251 JM000	Carbon 4.7kΩ 1/4W ±5%	1
R07	RD1 0 4251 JM000	Carbon 100kΩ 1/4W ±5%	1	R77	RD1 0 3251 JN000	Carbon 10kΩ 1/4W ±5%	1
R08	RD2 2 3251 JM000	Carbon 22kΩ 1/4W ±5%	1	R78	RD1 0 3251 JN000	Carbon 10kΩ 1/4W ±5%	1
R09	RD6 8 1251 JM000	Carbon 680Ω 1/4W ±5%	1	R79	RD1 0 4251 JM000	Carbon 100kΩ 1/4W ±5%	1
R10	RD2 2 3251 JN000	Carbon 22kΩ 1/4W ±5%	1	R80	RD2 2 3251 JN000	Carbon 22kΩ 1/4W ±5%	1
R11	RD1 8 3251 JM000	Carbon 18kΩ 1/4W ±5%	1	R81	RD4 7 3251 JM000	Carbon 47kΩ 1/4W ±5%	1
R12	RD4 7 1251 JM000	Carbon 470Ω 1/4W ±5%	1	R82	RD2 2 2251 JM000	Carbon 2.2kΩ 1/4W ±5%	1
R18	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1	R83	RH3 9 1501 KH000	Metal 390Ω 1/2W ±10%	1
R19	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1	R84	RD1 8 3251 JN000	Carbon 18kΩ 1/4W ±5%	1
R20	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1	R85	RD1 0 1251 JM000	Carbon 100Ω 1/4W ±5%	1
R21	RD5 6 2251 JM000	Carbon 5.6kΩ 1/4W ±5%	1	L.E.D. INDICATOR P.C.B. Assy			
R22	RD5 6 2251 JM000	Carbon 5.6kΩ 1/4W ±5%	1	131 0 4001 13280	L.E.D. Indicator P.C.B. Assy		1
R24	RD4 7 2251 JM000	Carbon 4.7kΩ 1/4W ±5%	1	SW01 4 2312 05800	Key Board Switch		1
R25	RD4 7 2251 JM000	Carbon 4.7kΩ 1/4W ±5%	1	131 0 4006 32302	Cord Assy		1
R26	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1	131 0 4006 32305	Cord Assy		1
R27	RD1 8 3251 JM000	Carbon 18kΩ 1/4W ±5%	1	131 0 4006 32312	Cord Assy		1
R28	RD4 7 A251 JM000	Carbon 4.7Ω 1/4W ±5%	1	131 0 4006 32317	Cord Assy		1
R29	RD4 7 1251 JM000	Carbon 470Ω 1/4W ±5%	1	131 0 4006 32319	Cord Assy		1
R30	RD4 7 1251 JM000	Carbon 470Ω 1/4W ±5%	1	131 0 4006 32323	Cord Assy		1
R31	RD4 7 1251 JM000	Carbon 470Ω 1/4W ±5%	1	131 0 4006 32325	Cord Assy		1
R32	RD1 0 2251 JM000	Carbon 1kΩ 1/4W ±5%	1	131 0 4006 32327	Cord Assy		1
R33	RD1 2 3251 JM000	Carbon 12kΩ 1/4W ±5%	1	131 2 4208 42400	Spacer		1
R34	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1	SEMICONDUCTOR			
R35	RD1 0 2251 JM000	Carbon 1kΩ 1/4W ±5%	1	DYY - LA-3 01VB-	L.E.D., LA 301 VB		1
R36	RD2 7 3251 JM000	Carbon 27kΩ 1/4W ±5%	1	TOUCH SWITCH P.C.B. Assy			
R37	RD3 3 3251 JM000	Carbon 33kΩ 1/4W ±5%	1	131 0 4001 13290	Touch Switch P.C.B. Assy		1
R38	RD1 0 5251 JM000	Carbon 1MΩ 1/4W ±5%	1	SW01 4 2312 05800	Key Board Switch		1
R39	RD3 3 4251 JN000	Carbon 330kΩ 1/4W ±5%	1	SW02 4 2312 05800	Key Board Switch		1
R40	RD4 7 3251 JM000	Carbon 47kΩ 1/4W ±5%	1	SW03 4 2312 05800	Key Board Switch		1
R41	RD4 7 3251 JM000	Carbon 47kΩ 1/4W ±5%	1	SW04 4 2312 05800	Key Board Switch		1
R42	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1	131 0 4006 32313	Cord Assy		1
R44	RD4 7 2251 JM000	Carbon 4.7kΩ 1/4W ±5%	1	131 0 4006 32314	Cord Assy		1
R45	RD1 0 3251 JN000	Carbon 10kΩ 1/4W ±5%	1	131 0 4006 32316	Cord Assy		1
R46	RD1 0 4251 JM000	Carbon 100kΩ 1/4W ±5%	1	131 0 4006 32318	Cord Assy		1
R47	RD1 0 4251 JM000	Carbon 100kΩ 1/4W ±5%	1	131 0 4006 32320	Cord Assy		1
R48	RD1 5 4251 JM000	Carbon 150kΩ 1/4W ±5%	1				
R49	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1				
R50	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1				
R51	RD1 0 3251 JM000	Carbon 10kΩ 1/4W ±5%	1				

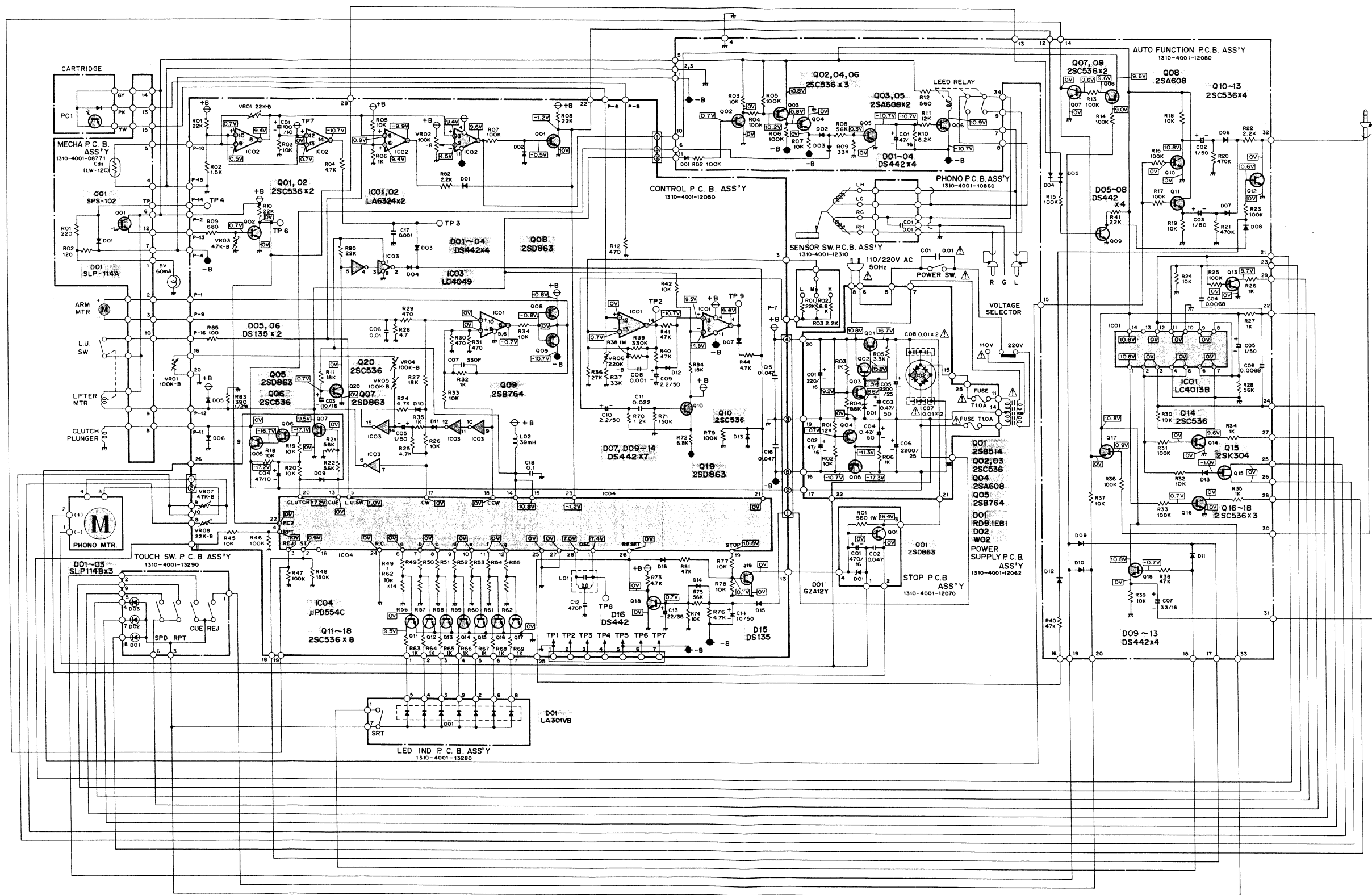
(Continued)

R01	RD2 2 3251	JM000	Carbon	22k Ω	1/4W	$\pm 5\%$	1
R02	RD6 8 2251	JM000	Carbon	6.8k Ω	1/4W	$\pm 5\%$	1
R03	RD2 2 2251	JM000	Carbon	2.2k Ω	1/4W	$\pm 5\%$	1

POINT TO POINT WIRING DIAGRAM



SCHEMATIC DIAGRAM



PRODUCT SAFETY NOTICE

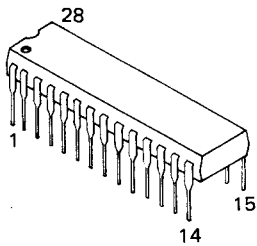
Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol  in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

NOTES:

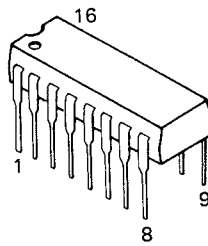
1. All resistors values are indicated in "ohm" ($K=10^3$, $M=10^6$).
 2. All capacitors values are indicated in " μF " ($P=10^{-12}$).
 3. All voltages indicated on the schematics are measured under the following conditions.
 - a. Use a V.T.V.M.
 4. This is a basic schematic diagram.
- Because Fisher products are subject to continuous improvement, Fisher Corporation reserves the right to make any changes or modifications without notice.

SEMICONDUCTOR LEAD IDENTIFICATION

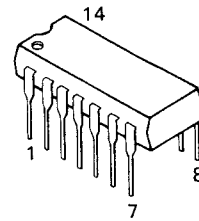
INTEGRATED CIRCUITS



- μ PD554



- LC4049



- LA6324
- LC4013

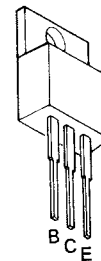
BI-POLAR TRANSISTORS



- 2SA608
- 2SC536
- 2SD863

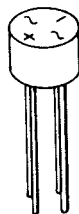


- 2SB764

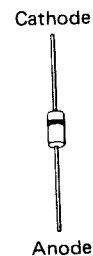


- 2SB514

DIODES



- W02



- DS-135D
- DS-442
- RD9.1